

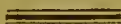
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DIRECTIONS FOR USING THE CURRENT APPARATUS,

For the uniform and continuous local application of
HEAT, COLD, or EQUAL PRESSURE,

In the Treatment of various Diseases.



I. It is essential for the effectual application either of Heat or Cold in inflammatory or irritative diseases, that a certain appropriate temperature should be uniformly preserved. This may be accomplished by causing a current of water of the desired temperature to flow from a fountain reservoir, by means of two or more tubes, through a thin water-proof cushion or bladder in contact with the body. The temperature which is most agreeable to the feelings of the patient will generally be that best adapted to his case.

II. Where a water cushion of some depth is required, as when it is to surround the chest, it should be partially confined to the part, or supported, by a piece of covered sheet lead bent into the proper form, or by a trough, or "supporter" of wood, tin, or other resisting material.

III. In placing the cushion for the application of cold, that part of it from which the water is to issue, must be the highest part, in order that the whole of the heated water

may escape. In warm applications, on the contrary, the waste tube, or tubes, must proceed from the lowest part of the cushion.

IV. When, in addition to the regulation of temperature, pressure is to be made, it is necessary that the cushion should be completely confined to the part by a bandage or a supporter; the waste pipe must be partially closed by its screw stopper; and the reservoir of water raised until it give the appropriate degree of pressure. But when it is intended only to alter the temperature, as in applying cold in certain affections of the head, or of the eyes, and after surgical operations; or heat with moisture in affections of the lungs, stomach, or bowels, care must be taken that the cushion shall not become distended. To prevent this, the open end of the waste tube should be fixed on a level with the desired height of the water.

V. Interruption of the stream will generally be found to proceed from the vulcanized rubber tube being pressed upon, or bent at too sharp an angle; from the channel where the tubes enter the cushion being obstructed by the twisting of the cushion, or its pressure against their openings; or from some substance in the water obstructing the tubes.

VI. Should the current be interrupted from any other cause not easily removeable, the water can still be withdrawn from the cushion and again supplied to it, at short intervals, through either of the tubes. A simple and useful apparatus on this principle, consisting of a small vessel or funnel and a wide flexible pipe connecting it with a cushion or bladder, is adapted for the treatment of pectoral and

abdominal diseases in children, whose restlessness often impedes the operation of the Current Apparatus; and it may be used in other cases, as for pressure exclusively, or where only a very limited supply of warm water can be obtained. In order to fill and empty the cushion, the tube has merely to be raised and lowered, without moving, undressing, or otherwise annoying the child. A supporter will generally be required for the cushion; and the other tube may be attached to it afterwards, if convenient, and the current established.

VII. When it is important that the cushion should remain in close contact with an irregular surface, as in applying the equal and uniform pressure of water to eczema and other cutaneous affections of the face, or in the treatment of certain wounds, ulcers, burns, &c., a thin or prepared bladder will be preferable to a cushion of macintosh cloth. One made of thin membrane is also to be preferred where a great degree of cold is desired. But for most purposes thin macintosh cloth is the proper material. It is particularly so where very large cushions are required, as for the removal of the morbid degree of heat in cases of ardent fever; for causing revulsion to the extremities by heat; and in the treatment of certain diffused and obstinate diseases of the skin. The cushion should, in general, be moistened, or wet lint may be placed between it and the skin.

VIII. In the treatment of diseased joints, and other affections of the extremities by fluid pressure, it is generally an advantage to support the lower part of the limb by a common bandage. Sudden transitions of temperature ought to be avoided, both at the beginning and end of the process

IX. By employing long, light, and flexible tubes, which may be easily detached from the other parts of the apparatus, the patient will be able, occasionally, to change his posture. Being free from the discomfort attending frequent changes of poultices, &c., and the spreading of the wet, he will not object to such short constraint as may be necessary to secure the whole beneficial effects of these remedies—which, though amongst the most powerful and safest known, have, hitherto, from the very imperfect modes of their application, and the impossibility, by such modes, of using cold and pressure in conjunction, been comparatively inefficient, and too often, either totally inert, or injurious. Heat communicated by poultices and fomentations is too transitory and interrupted to be of much avail: when a series of reactions is caused by the usual intermitting application of cold, excitement of the morbid part instead of depression is the result: and pressure by a bandage, when exerted on a surface at all irregular, will at best be confined to the more projecting parts of this; and soon becoming disordered by the movements of the patient, it will cease acting on certain points and be concentrated on others, causing either irritation or congestion. By removing the dangers of the usual methods of applying these curative agents, and by rendering their beneficial operation more than doubly effectual, the Current Apparatus will not only succeed in cases where these methods now fail, but its use may be extended, with equal advantage, to other analogous diseases, in which they have not been employed. The speedy cure of harassing diseases of the skin, which had resisted all the usual remedies, by thus supporting its inflamed and distended vessels, and, at the same time, regulating the temperature, is an important example of such extension.